IN THE CLAIMS

1. (Currently Amended) A wireless communication system operating without a base station and including a plurality of communication apparatuses associated with respective communication areas, the system comprising:

an information transmission source communication apparatus for forming a data packet by inserting a preamble signal into each transmission data and transmitting the formed data packet to a receiving destination communication apparatus over a transmission path, the receiving destination communication apparatus being one ~~or more~~ of the communication apparatuses that are located within the communication area of the transmission source communication apparatus,

wherein a preamble signal is inserted in each transmission packet transmitted between the transmission source communication apparatus and the receiving destination communication apparatus so as to be integral with each transmission data, wherein said transmission packet being at least one of a beacon signal, a data packet, an acknowledgment packet, a negative acknowledgment packet, a transmission request packet, and a confirmation notice packet,

wherein said transmission packet contains error detection information for header information in said transmission packet, wherein said beacon signal and data packet contain error detection information for payload information in respective beacon signal and data packet; and

at least one of the plurality of communication apparatuses ~~located within the communication area of the transmission source communication apparatus and~~ not currently communicating for recognizing that the transmission path is used for a predetermined interval by the transmission source communication apparatus and the receiving destination~~another~~

communication apparatus from a time when ~~the~~ a preamble signal from a transmission packet is detected.~~;~~

~~the preamble signal is inserted in each transmission packet so as to be integral with each transmission data, and~~

~~the communication apparatus located within the communication area of the transmission source communication apparatus and not currently communicating engaging in wireless communication over the transmission path when it does not detect any preamble signal.~~

2. (Previously Presented) The wireless communication system as claimed in claim 1, wherein

the information transmission source communication apparatus forms the data packet at a predetermined time unit, and further comprising:

an information reception target communication apparatus for generating acknowledge (ACK) information in response to the success in correctly receiving the data and for generating not acknowledge (NACK) information in response to a failure in correctly receiving the data, forms an ACK or NACK packet to which a preamble signal is inserted, and returns it, just after the reception of the data packet;

said information transmission source communication apparatus retransmits the data packet of said predetermined time unit in response to the reception of the NACK packet; and

said communication apparatus not currently communicating recognizes a use of the transmission path for retransmission based on the reception of the preamble signal for a period from the detection of the NACK packet to detection of the next ACK packet.

3. (Previously Presented) The wireless communication system as claimed in claim 2, wherein

other communication apparatuses not currently communicating recognize the termination of the use of the transmission path when the ACK packet cannot be detected based on the detection of the preamble signal until a predetermined elapsed time from when the NACK packet is received.

4. (Previously Presented) The wireless communication system as claimed in claim, 2 wherein

the information reception target communication apparatus adds the preamble signal to a top of a beacon signal describing information regarding a communication apparatus of which transmission is permitted with priority, and transmits the beacon signal;

the communication apparatus specified by the beacon signal transmits a predetermined unit of data packet when there is data to be transmitted to said information reception target apparatus; and

other communication apparatuses not currently communicating recognize based on the detection of the preamble signal the use of the transmission path for the time interval corresponding to the packet length from when said beacon signal is received.

5. (Previously Presented) The wireless communication system as claimed in claim, 2 wherein

said information transmission source communication apparatus transmits a transmission request packet (RTS) into which the preamble signal is inserted when no preamble signal is detected for a predetermined time interval; and

said information reception target communication apparatus returns a confirmation notice packet (CTS) in response to the reception of a transmission request packet (RTS).

6. (Previously Presented) The wireless communication system as claimed in claim 5, wherein

said other communication apparatus not currently communicating recognizes based on the detection of the preamble signal the use of the transmission path from when the NACK packet is detected, during a predetermined interval from the reception of the confirmation notice (CTS) packet, to when the next ACK packet is detected.

7. (Previously Presented) The wireless communication system as claimed in claim 5, wherein

said information source communication apparatus makes the data packet include therein an element of the transmission request (RTS) for a next data packet transmission when transmission data exists.

8. (Previously Presented) The wireless communication system as claimed in claim 5, wherein

said information reception target communication apparatus makes the ACK packet or the NACK packet corresponding to the received data packet include an element of confirmation notice (CTS).

9. (Currently Amended) A wireless communication apparatus operating within a communication system not having a base station and including a plurality of communication apparatuses associated with respective communication areas, the apparatus comprising:

buffer ~~means~~ unit for dividing transmission data by a predetermined unit;

transmission data processing ~~means~~ unit for adding a predetermined preamble signal to divided transmission data from the buffer ~~means~~unit to form a transmission packet,

wherein said transmission packet being at least one of a beacon signal, a data packet, an acknowledgment packet, a negative acknowledgment packet, a transmission request packet, and a confirmation notice packet,

wherein said transmission packet contains error detection information for header information in said transmission packet, wherein said beacon signal and data packet contain error detection information for payload information in respective beacon signal and data packet;

preamble detection ~~means~~unit for detecting a preamble signal on a transmission path; and

transmission ~~means~~unit for transmitting the formed packet when no preamble signal is detected for a predetermined interval at said preamble detection ~~means~~unit, the formed packet being transmitted over a transmission path to one or more communication apparatuses within the communication area of the wireless communication apparatus transmitting the packet,

whereby at least one of the plurality of ~~a~~ communication apparatuses ~~located within the communication area of the wireless communication apparatus transmitting the packet and~~ not currently communicating recognizes that the transmission path is used for a predetermined interval by another communication apparatus from a time when ~~the~~ a preamble signal from a transmission packet is detected~~,~~

~~the preamble signal is inserted in each transmission packet so as to be integral with each transmission data, and~~

~~the communication apparatus located within the communication area of the transmission source communication apparatus and not currently communicating engaging in wireless communication over the transmission path when it does not detect any preamble signal~~.

10. (Currently Amended) The wireless communication apparatus as claimed in claim 9, further comprising:

reception ~~means~~unit for receiving a signal added to the preamble signal in response to the detection of the preamble signal; and

reception data processing ~~means~~unit for analyzing the signal received by said reception ~~means~~unit.

11. (Currently Amended) The wireless communication apparatus as claimed in claim 10, wherein

said reception data processing ~~means~~unit generates acknowledge (ACK) information in response to correctly receiving a for-own-station data and not acknowledge (NACK) information in response to incorrectly receiving the for-own-station data;

said transmission data processing ~~means~~unit forms an ACK packet or an NACK packet into which a preamble signal is inserted; and

said transmission ~~means~~unit transmits the ACK packet or the NACK packet just after the reception of the data.

12. (Currently Amended) The wireless communication apparatus as claimed in claim 11, wherein

upon not currently communicating, said reception data processing ~~means~~unit recognizes use of the transmission path for the data retransmission from when the NACK packet is detected to when the next ACK packet is detected.

13. (Currently Amended) The wireless communication apparatus as claimed in claim 11, wherein

said reception data processing ~~means~~unit recognizes a termination of use of the transmission path when no ACK packet is detected until a predetermined interval has elapsed from when the NACK packet is received.

14. (Currently Amended) The wireless communication apparatus as claimed in claim 10, wherein

said transmission data processing ~~means~~unit generates a beacon signal describing information regarding a communication apparatus from which transmission is permitted with priority; and

said reception data processing ~~means~~unit analyzes whether the transmission of its own station is permitted with priority by analyzing the beacon signal.

15. (Currently Amended) The wireless communication apparatus as claimed in claim 14, wherein

upon not currently communicating, said reception data processing ~~means~~unit recognizes use of a transmission path for a time interval corresponding to the packet length from when the beacon signal is received.

16. (Currently Amended) The wireless communication apparatus as claimed in claim 10, wherein

said transmission data processing ~~means~~unit generates a transmission request (RTS) packet for a data transmission target;

and in response to reception of the transmission request (RTS) packet from another communication apparatus by said reception processing ~~means~~unit, said transmission data processing ~~means~~unit generates a confirmation notice (CTS) packet.

17. (Currently Amended) The wireless communication apparatus as claimed in claim 16, wherein

upon not currently communicating, said reception data processing ~~means~~unit recognizes use of a transmission path from

when a not acknowledge (NACK) packet is detected, during a predetermined interval from the reception of the confirmation notice (CTS) packet, to when a next acknowledge (ACK) packet is detected.

18. (Currently Amended) The wireless communication apparatus as claimed in claim 16, wherein

said transmission data processing ~~means~~unit makes the data packet include therein an element of the transmission request (RTS) for a next data packet transmission when a following transmission data exists.

19. (Currently Amended) The wireless communication apparatus as claimed in claim 16, characterized in that:

said transmission data processing ~~means~~unit makes an acknowledge (ACK) packet or a not acknowledge (NACK) packet corresponding to the received data packet include an element of the confirmation notice [CTS] therein.

20. (Currently Amended) A wireless communication method for use in a communication system not having a base station and including a plurality of a communication apparatuses associated with respective communication areas, the method comprising:

a buffering step for dividing transmission data by a predetermined unit;

a transmission data processing step for forming a transmission packet by adding a predetermined preamble signal to divided data from the buffering step,

wherein a transmission packet being at least one of a beacon signal, a data packet, an acknowledgment packet, a negative acknowledgment packet, a transmission request packet, and a confirmation notice packet,

wherein said transmission packet contains error detection information for header information in said transmission packet, wherein said beacon signal and data packet contain error detection information for payload information in respective beacon signal and data packet;

a preamble detection step for detecting a preamble signal on a transmission path; and

a transmission step for transmitting the formed transmission packet when no preamble is detected for a predetermined interval in said preamble detection step, the formed packet being transmitted over a transmission path to one or more communication apparatuses within the communication area of a communication apparatus transmitting the packet,

whereby at least one of the plurality of ~~a~~ communication apparatuses ~~located within the communication area of the communication apparatus transmitting the packet and~~ not currently communicating recognizes that the transmission path is used for a predetermined interval by another communication apparatus from a time when ~~the~~ a preamble signal from a transmission packet is detected~~,~~

~~the preamble signal is inserted in each transmission packet so as to be integral with each transmission data, and~~

~~the communication apparatus located within the communication area of the transmission source communication apparatus and not currently communicating engaging in wireless communication over the transmission path when it does not detect any preamble signal~~.

21. (Previously Presented) The wireless communication method as claimed in claim 20, further comprising:

a reception step for receiving a signal added to the preamble signal in response to the detection of the preamble signal, and

a reception data processing step for analyzing information received by said reception step.

22. (Previously Presented) The wireless communication method as claimed in claim 21, wherein

in said reception data processing step, in response to success in correctly receiving data directed to own station, acknowledge (ACK) information is generated, or in response to a failure in correctly receiving data directed to own station, not acknowledge (NACK), information is generated;

in said transmission data processing step, an ACK packet or an NACK packet into which the preamble signal is inserted is formed, and

in said transmission step, the ACK packet or the NACK packet is transmitted just after the data reception.

23. (Previously Presented) The wireless communication method as claimed in claim 22, wherein

upon not currently communicating in said reception data processing step, it is recognized that the transmission path is used for data retransmission from when the NACK packet is detected to when a next ACK packet is detected.

24. (Previously Presented) The wireless communication method as claimed in claim 22, wherein

in said reception data processing step, it is recognized that use of the transmission path is terminated when the ACK packet cannot be detected until a predetermined time has elapsed from when the NACK packet is received.

25. (Previously Presented) The wireless communication method as claimed in claim 21, wherein

in said transmission data processing step, beacon signal describing information regarding the communication apparatus from which transmission is permitted with priority is generated; and

in said reception data processing step, it is analyzed whether own transmission is permitted with priority by analyzing the beacon signal.

26. (Previously Presented) The wireless communication method as claimed in claim 25, wherein

upon currently non-communicating, in said reception data processing step, it is recognized that a transmission path is used for the time interval corresponding to the packet length from when the beacon signal is received.

27. (Previously Presented) The wireless communication method as claimed in claim 21, wherein in said transmission data processing step, a transmission request (RTS) packet for the data transmission target is generated; or

in said reception step, in response to the reception of a transmission request (RTS) packet from another communication apparatus, in said transmission data processing step, a confirmation notice (CTS) packet is generated.

28. (Previously Presented) The wireless communication method as claimed as claim 27, wherein

upon currently non-communicating, in said reception data processing step, it is recognized that the transmission path is used from when a not acknowledge (NACK) packet is detected during a predetermined interval from the reception of the confirmation notice (CTS) packet to when a next acknowledge (ACK) packet is detected.

29. (Previously Presented) The wireless communication method as claimed in claim 27, wherein

in said transmission data processing step, the data packet is made to include therein an element of the transmission request (RTS) for a next data packet transmission when a following transmission data exists.

30. (Previously Presented) The wireless communication method as claimed in claim 27, characterized in that:

in said transmission data processing step, and acknowledge (ACK) packet or an not acknowledge (NACK) packet corresponding to the received data packet is made to include therein an element of the confirmation notice (CTS).

31. (Cancelled)